

Marx's Vision of Sustainable Human Development :: Monthly Review

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In developed capitalist countries, debates over the economics of socialism have mostly concentrated on questions of information, incentives, and efficiency in resource allocation. This focus on "socialist calculation" reflects the mainly academic context of these discussions. By contrast, for anti-capitalist movements and post-revolutionary regimes on the capitalist periphery, socialism as a form of human development has been a prime concern. A notable example is Ernesto "Che" Guevara's work on "Man and Socialism in Cuba," which rebutted the argument that "the period of building socialism...is characterized by the extinction of the individual for the sake of the state." For Che, socialist revolution is a process in which "large numbers of people are developing themselves," and "the material possibilities of the integral development of each and every one of its members make the task ever more fruitful."¹

With global capitalism's worsening poverty and environmental crises, sustainable human development comes to the fore as the primary question that must be engaged by all twenty-first century socialists in core and periphery alike. It is in this human developmental connection, I will argue, that Marx's vision of communism or socialism (two terms that he used interchangeably) can be most helpful.²

The suggestion that Marx's communism can inform the struggle for more healthy, sustainable, and liberating forms of human development may seem paradoxical in light of various ecological criticisms of Marx that have become so fashionable over the last several decades. Marx's vision has been deemed ecologically unsustainable and undesirable due to its purported treatment of natural conditions as effectively limitless, and its supposed embrace, both practically and ethically, of technological optimism and human domination over nature.

The well known ecological economist Herman Daly, for example, argues that for Marx, the "materialistic determinist, economic growth is crucial in order to provide the overwhelming material abundance that is the objective condition for the emergence of the new socialist man. Environmental limits on growth would contradict 'historical necessity'..." The problem, says environmental political theorist Robyn Eckersley, is that "Marx fully endorsed the 'civilizing' and technical accomplishments of the capitalist forces of production and thoroughly absorbed the Victorian faith in scientific and technological progress as the means by which humans could outsmart and conquer nature." Evidently Marx "consistently saw human freedom as inversely related to humanity's dependence on nature." Environmental culturalist Victor Ferkiss asserts that "Marx and Engels and their modern followers" shared a "virtual worship of modern technology," which explains why "they joined liberals in refusing to criticize the basic technological constitution of modern society." Another environmental political scientist, K. J. Walker, claims that Marx's vision of communist production does not recognize any actual or potential "shortage of natural resources," the "implicit assumption" being "that natural resources are effectively limitless." Environmental philosopher Val Routley describes Marx's vision of communism as an anti-ecological "automated paradise" of energy-intensive and "environmentally damaging" production and consumption, one which "appears to derive from [Marx's] nature-domination assumption."³

An engagement with these views is important not least because they have become influential even among ecologically minded Marxists, many of whom have looked to non-Marxist paradigms, especially that of Karl Polanyi, for the ecological guidance supposedly lacking in Marxism. The under-utilization of the human developmental and ecological elements of Marx's communist vision is also reflected in the decision by some Marxists to place their bets on a "greening" of capitalism as a practical alternative to the struggle for socialism.⁴

Accordingly, I will interpret Marx's various outlines of post-capitalist economy and society as a vision of sustainable human development. Since there are no important disagreements between Marx and Engels in this area, I will also refer to the writings of Engels, and works co-authored by Marx and Engels, as appropriate. After sketching the human developmental dimensions of communal property and associated (non-market) production in Marx's view, I draw out the sustainability aspect of these principles by responding to the most common ecological criticisms of Marx's projection. I conclude by briefly reconsidering the connections between Marx's vision of communism and his analysis of capitalism, focusing on that all important form of human development: the class struggle.

1. Basic Organizing Principles of Marx's Communism

There is a conventional wisdom that Marx and Engels, eschewing all "speculation about... socialist utopias," thought very little about the system to follow capitalism, and that their entire body of writing on this subject is represented by "the *Critique of the Gotha Program*, a few pages long, and not much else."⁵

In reality, post-capitalist economic and political relationships are a recurring thematic in all the major, and many of the minor, works of the founders of Marxism, and despite the scattered nature of these discussions, one can easily glean from them a coherent vision based on a clear set of organizing principles. The most basic feature of communism in Marx's projection is its overcoming of capitalism's social separation of the producers from necessary conditions of production. This new social union entails a complete decommodification of labor power plus a new set of communal property rights. Communist or "associated" production is planned and carried out by the producers and communities themselves, without the class-based intermediaries of wage-labor, market, and state. Marx often motivates and illustrates these basic features in terms of the primary means and end of associated production: free human development.

A. The New Union and Communal Property

For Marx, capitalism involves the "decomposition of the original union existing between the labouring man and his means of labour," while communism will "restore the original union in a new historical form." Communism is the "historical reversal" of "the separation of labour and the worker from the conditions of labour, which confront him as independent forces." Under capitalism's wage system, "the means of production employ *the workers*" under communism, "the workers, as subjects, employ the means of production...in order to produce wealth for themselves."⁶

This new union of the producers and the conditions of production "will," as Engels phrases it, "emancipate human labour power from its position as a *commodity*." Naturally, such an emancipation, in which the laborers undertake production as "united workers" (see below), "is only possible where the workers are the owners of their means of production." This worker ownership does not entail the individual rights to possession and alienability characterizing capitalist property, however. Rather, workers' communal property codifies and enforces the new union of the *collective* producers and their communities with the conditions of production. Accordingly, Marx describes communism as "replacing capitalist production with cooperative production, and capitalist property with a *higher form* of the archaic type of property, i.e. communist property."⁷

One reason why communist property in the conditions of production cannot be individual private property is that the latter form “excludes co-operation, division of labour within each separate process of production, the control over, and the productive application of the forces of Nature by society, and the free development of the social productive powers.” In other words, “the individual worker could only be restored as *an individual* to property in the conditions of production by divorcing productive power from the development of [alienated] labour on a large scale.” As stated in *The German Ideology*, “the appropriation by the proletarians” is such that “a mass of instruments of production must be made subject to each individual, and property to all. Modern universal intercourse cannot be controlled by individuals, unless it is controlled by all...With the appropriation of the total productive forces by the united individuals, private property comes to an end.”⁸

Besides, given capitalism’s prior socialization of production, “private” property in the means of production is already a kind of social property, even though its social character is class-exploitative. From capital’s character as “not a personal, [but] a social power” it follows that when “capital is converted into common property, into the property of all members of society, personal property is not thereby transformed into social property. It is only the social character of the property that is changed. It loses its class-character.”⁹

Marx’s vision thus involves a “reconversion of capital into the property of producers, although no longer as the private property of the individual producers, but rather as the property of associated producers, as outright social property.” Communist property is collective precisely insofar as “the material conditions of production are the co-operative property of the workers” as a whole, not of particular individuals or sub-groups of individuals. As Engels puts it: “The ‘working people’ remain the collective owners of the houses, factories and instruments of labour, and will hardly permit their use...by individuals or associations without compensation for the cost.” The collective planning and administration of social production requires that not only the means of production but also the distribution of the total product be subject to explicit social control. With associated production, “it is possible to assure each person ‘the full proceeds of his labour’...only if [this phrase] is extended to purport not that each individual worker becomes the possessor of ‘the full proceeds of his labour,’ but that the whole of society, consisting entirely of workers, becomes the possessor of the total product of their labour, which product it partly distributes among its members for consumption, partly uses for replacing and increasing its means of production, and partly stores up as a reserve fund for production and consumption.” The latter two “deductions from the...proceeds of labour are an economic necessity” they represent “forms of surplus-labour and surplus-product...which are common to all social modes of production.” Further deductions are required for “general costs of administration,” for “the communal satisfaction of needs, such as schools, health services, etc.,” and for “funds for those unable to work.” Only then “do we come to...that part of the means of consumption which is divided among the individual producers of the co-operative society.”¹⁰

Communism’s explicit socialization of the conditions and results of production should not be mistaken for a complete absence of individual property rights, however. Although communal property “does not re-establish private property for the producer,” it nonetheless “gives him individual property based on the acquisitions of the capitalist era: i.e., on co-operation and the possession in common of the land and of the means of production.” Marx posits that “the *alien property* of the capitalist...can only be abolished by converting his property into the property...of the *associated, social individual*.” He even suggests that communism will “make individual property a truth by transforming the means of production...now chiefly the means of enslaving and exploiting labor, into mere instruments of free and associated labour.”¹¹

Such statements are often interpreted as mere rhetorical flourishes, but they become more explicable when viewed in the context of communism's overriding imperative: the free development of individual human beings as social individuals. Marx and Engels describe "the community of revolutionary proletarians" as an "association of individuals...which puts the conditions of the free development and movement of individuals under their control—conditions which were previously left to chance and had acquired an independent existence over against the separate individuals." Stated differently, "the all-round realisation of the individual will only cease to be conceived as an ideal...when the impact of the world which stimulates the real development of the abilities of the individual is under the control of the individuals themselves, as the communists desire." In class-exploitative societies, "personal freedom has existed only for the individuals who developed under the conditions of the ruling class" but under the "real community" of communism, "individuals obtain their freedom in and through their association." Instead of opportunities for individual development being obtained mainly at the expense of others, as in class societies, the future "community" will provide "each individual [with] the means of cultivating his gifts in all directions; hence personal freedom becomes possible only within the community."¹²

In short, communal property is individual insofar as it affirms each person's claim, as a member of society, for access to the conditions and results of production as a conduit to her or his development as an individual "to whom the different social functions he performs are but so many modes of giving free scope to his own natural and acquired powers." Only in this way can communism replace "the old bourgeois society, with its classes and class antagonisms," with "an association, in which the free development of each is a condition for the free development of all."¹³

The most basic way in which Marx's communism promotes individual human development is by protecting the individual's right to a share in the total product (net of the above-mentioned deductions) for her or his private consumption. The *Manifesto* is unambiguous on this point: "Communism deprives no man of the power to appropriate the products of society; all that it does is to deprive him of the power to subjugate the labour of others by means of such appropriation." In this sense, Engels observes, "social ownership extends to the land and the other means of production, and private ownership to the products, that is, the articles of production." An equivalent description of the "community of free individuals" is given in volume 1 of *Capital*: "The total product of our community is a social product. One portion serves as fresh means of production and remains social. But another portion is consumed by the members of society as means of subsistence."¹⁴

All of this, of course, raises the question as to how the distribution of individual workers' consumption claims will be determined. In *Capital*, Marx envisions that "the mode of this distribution will vary with the productive organisation of the community, and the degree of historical development attained by the producers." He then suggests ("merely for the sake of a parallel with the production of commodities") that one possibility would be for "the share of each individual producer in the means of subsistence" to be "determined by his labour-time." In the *Critique of the Gotha Programme*, the conception of labor time as the determinant of individual consumption rights is less ambiguous, at least for "the first phase of communist society as it is when it has just emerged after prolonged birth pangs from capitalist society." Here, Marx forthrightly projects that

the individual producer receives back from society—after the deductions have been made—exactly what he gives to it. What he has given to it is his individual amount of labour...The individual labour time of the individual producer is the part of the social labour day contributed by him, his share in it. He receives a certificate from society that he has furnished such and such an amount of labour (after deducting his labour for the common fund), and with this certificate he draws from the social stock of means of consumption as much as the same amount of labour costs. The same amount of labour which he has given to society in one form, he receives back in another.

The basic rationale behind labor-based consumption claims is that “the distribution of the means of consumption at any time is only a consequence of the distribution of the conditions of production themselves.”¹⁵ Given that the conditions of production are the property of the producers, it stands to reason that the distribution of consumption claims will be more closely tied to labor time than under capitalism, where it is money that rules. This labor-time standard raises important social and technical issues that cannot be addressed here—especially whether and how differentials in labor intensity, work conditions, and skills would be measured and compensated.¹⁶

However, what Marx emphasizes is that insofar as the individual labor-time standard merely codifies the ethic of equal exchange regardless of the connotations for individual development, it is still infected by “the narrow horizon of bourgeois right.” Marx therefore goes on to suggest that “in a higher phase of communist society,” labor-based individual consumption claims can and should “be fully left behind and society inscribe on its banners: from each according to his ability, to each according to his needs!” It is in this higher phase that communism’s “mode of distribution...allows *all* members of society to develop, maintain and exert their capacities in all possible directions.” Here, “the individual consumption of the labourer” becomes that which “the full development of the individuality requires.”¹⁷

Even in communism’s lower phase, the means of individual development assured by communal property are not limited to individuals’ private consumption claims. Human development will also benefit from the expanded social services (education, health services, utilities, and old-age pensions) that are financed by deductions from the total product prior to its distribution among individuals. Hence, “what the producer is deprived of in his capacity as a private individual benefits him directly or indirectly in his capacity as a member of society.” Such social consumption will, in Marx’s view, be “considerably increased in comparison with present-day society and it increases in proportion as the new society develops.”¹⁸

For example, Marx envisions an expansion of “technical schools (theoretical and practical) in combination with the elementary school.” He projects that “when the working-class comes into power, as inevitably it must, technical instruction, both theoretical and practical, will take its proper place in the working-class schools.” Marx even suggests that the younger members of communist society will experience “an early combination of productive labour with education”—presuming, of course, “a strict regulation of the working time according to the different age groups and other safety measures for the protection of children.” The basic idea here is that “the fact of the collective working group being composed of individuals of both sexes and ages, must necessarily, under suitable conditions, become a source of humane development.” Another, related function of theoretical and practical education “in the Republic of Labour” will be to “convert science from an instrument of class rule into a popular force,” and thereby “convert the men of science themselves from panderers to class prejudice, place-hunting state parasites, and allies of capital into free agents of thought.”¹⁹

Along with expanded social consumption, communism’s “shortening of the working-day” will facilitate human development by giving individuals more free time in which to enjoy the “material and intellectual advantages...of social development.” Free time is “time...for the free development, intellectual and social, of the individual.” As such, “free time, *disposable time*, is wealth itself, partly for the enjoyment of the product, partly for free activity which—unlike labour—is not dominated by the pressure of an extraneous purpose which must be fulfilled, and the fulfillment of which is regarded as a natural necessity or a social duty.” Accordingly, with communism “the measure of wealth is...not any longer, in any way, labour time, but rather disposable time.” Nonetheless, since labor is always, together with nature, a fundamental “substance of wealth,” labor time is an important “measure of the *cost* of [wealth’s] production...even if exchange-value is eliminated.”²⁰

Naturally, communist society will place certain responsibilities on individuals. Even though free time will expand, individuals will still have a responsibility to engage in productive labor (including child-rearing and other care-giving activities) insofar as they are physically and mentally able to do so. Under capitalism and other class societies, “a particular class” has “the power to shift the natural burden of labour from its own shoulders to those of another layer of society.” But under communism, “with labour emancipated, everyman becomes a working man, and productive labour ceases to be a class attribute.” Individual self-development is also not only a right but a responsibility under communism. Hence, “the workers assert in their communist propaganda that the vocation, designation, task of every person is to achieve all-round development of his abilities, including, for example, the ability to think.”²¹

It is important to recognize the two-way connection between human development and the productive forces in Marx’s vision. This connection is unsurprising seeing as how Marx always treated “the human being himself” as “the main force of production.” And he always saw “forces of production and social relations” as “two different sides of the development of the social individual.” Accordingly, communism can represent a real union of all the individual producers with the conditions of production only if it ensures each individual’s right to participate to the fullest of her or his ability in the cooperative utilization and development of these conditions. The highly socialized character of production means that “individuals must appropriate the existing totality of productive forces, not only to achieve self-activity, but, also, merely to safeguard their very existence.” In order to be an effective vehicle of human development, this appropriation must not reduce individuals to minuscule, interchangeable cogs in a giant collective production machine operating outside their control in an alienated pursuit of “production for the sake of production.” Instead, it must enhance “the development of human productive forces” capable of grasping and controlling social production at the human level in line with “the development of the richness of human nature as an end in itself.” Although communist “appropriation [has] a universal character corresponding to...the productive forces,” it also promotes “the development of the individual capacities corresponding to the material instruments of production.” Because these instruments “have been developed to a totality and...only exist within a universal intercourse,” their effective appropriation requires “the development of a totality of capacities in the individuals themselves.” In short, “the genuine and free development of individuals” under communism is both enabled by and contributes to “the universal character of the activity of individuals on the basis of the existing productive forces.”²²

B. Planned, Non-Market Production

In Marx’s view, a system run by freely associated producers and their communities, socially unified with necessary conditions of production, by definition excludes commodity exchange and money as primary forms of social reproduction. Along with the decommodification of labor power comes an explicitly “socialised production,” in which “society”—not capitalists and wage-laborers responding to market signals—“distributes labour-power and means of production to the different branches of production.” As a result, “the money-capital” (including the payment of wages) “is eliminated.” During communism’s lower phase, “the producers may...receive paper vouchers entitling them to withdraw from the social supplies of consumer goods a quantity corresponding to their labour-time” but “these vouchers are not money. They do not circulate.” In other words, “the future distribution of the necessaries of life” cannot be treated “as a kind of more exalted wages.”²³

For Marx, the domination of social production by the market is specific to a situation in which production is carried out in independently organized production units on the basis of the producers’ social separation from necessary conditions of production. Here, the labors expended in the mutually autonomous enterprises (competing capitals, as Marx calls them) can only be validated as part of society’s reproductive division of labor *ex post*, according to the prices their products fetch in the market. In short, “commodities are the direct products of isolated independent individual kinds of labour,” and they cannot be directly “compared with one another as products of social labour” hence “through their alienation in the course of individual exchange they must prove that they are general social labour.”²⁴

By contrast, “communal labour-time or labour-time of directly associated individuals...is *immediately social* labour-time.” And “where labour is communal, the relations of men in their social production do not manifest themselves as ‘values’ of ‘things’”:

Within the co-operative society based on common ownership of the means of production, the producers do not exchange their products; just as little does the labour employed on the products appear here as *the value* of these products, as a material quality possessed by them, since now, in contrast to capitalist society, individual labour no longer exists in an indirect fashion but directly as a component part of the total labour.²⁵

The *Grundrisse* draws a more extended contrast between the indirect, *ex post* establishment of labor as social labor under capitalism and the direct, *ex ante* socialization of labor “on the basis of common appropriation and control of the means of production”:

The communal character of production would make the product into a communal, general product from the outset. The exchange which originally takes place in production—which would not be an exchange of exchange values but of activities, determined by the communal needs and communal purposes—would from the outset include the participation of the individual in the communal world of products. On the basis of exchange values, labour is *posited* as general only through *exchange*. But on this foundation it would be *posited* as such before exchange; i.e. the exchange of products would in no way be the *medium* by which the participation of the individual in general production is mediated. Mediation must, of course, take place. In the first case, which proceeds from the independent production of individuals...mediations take place through the exchange of commodities, through exchange values and through money...In the second case, the *presupposition is itself mediated*; i.e. a communal production, communality, is presupposed as the basis of production. The labour of the individual is posited from the outset as social labour...The product does not first have to be transposed into a particular form in order to attain a general character for the individual. Instead of a division of labour, such as is necessarily created with the exchange of exchange values, there would take place an organization of labour whose consequence would be the participation of the individual in communal consumption.²⁶

The immediately social character of labor and products is thus a logical outgrowth of the new communal union between the producers and necessary conditions of production. This de-alienation of production negates the necessity for the producers to engage in monetary exchanges as a means of establishing a reproductive allocation of their labor:

The very necessity of first transforming individual products or activities into *exchange value*, into *money*, so that they obtain and demonstrate their social *power* in this *objective* form, proves two things: (1) That individuals now produce only for society and in society; (2) that production is not *directly* social, is not “the offspring of association,” which distributes labour internally. Individuals are subsumed under social production; social production exists outside them as their fate; but social production is not subsumed under individuals, manageable by them as their common wealth.²⁷

That the bypassing of market exchange and the overcoming of workers’ alienation from production are two aspects of the same phenomenon explains why, in at least one instance, Marx defines communism simply as “dissolution of the mode of production and form of society based on exchange value. Real positing of individual labour as social and vice versa.” Communism’s “directly associated labour...is entirely inconsistent with the production of commodities.”²⁸

As noted earlier, academic debates over the “economics of socialism” have tended to focus on technical issues of allocative efficiency (“socialist calculation”). Marx and Engels themselves often argued that the post-capitalist economy would enjoy superior planning and allocative capabilities compared to capitalism. In *Capital*, Marx describes “freely associated” production as “consciously regulated...in accordance with a settled plan.” With “the means of production in common,...the labour-power of all the different individuals is consciously applied as the combined labour-power of the community...in accordance with a definite social plan [which] maintains the proper proportion between the different kinds of work to be done and the various wants of the community.” In *The Civil War in France*, Marx projects that “united co-operative societies” will “regulate national production upon a common plan, thus taking it under their own control, and putting an end to the constant anarchy and periodic convulsions which are the fatality of capitalist production.”²⁹

Nonetheless, Marx and Engels did not treat planned resource allocation as the most fundamental factor distinguishing communism from capitalism. For them, the more basic characteristic of communism is its de-alienation of the conditions of production *vis-à-vis* the producers, and the enabling effect this new union would have on free human development. Stated differently, they treated communism’s planning and allocative capacities as symptoms and instruments of the human developmental impulses unleashed by the new communality of the producers and their conditions of existence. Communism’s decommodification of production is, as discussed above, the flip side of the de-alienation of production conditions. The planning of production is just the allocative form of this reduced stunting of humans’ capabilities by their material and social conditions of existence. As Marx says, commodity exchange is only “the bond natural to individuals within specific limited relations of production” and the “alien and independent character” in which this bond “exists *vis-à-vis* individuals proves only that the latter are still engaged in the creation of the conditions of their social life, and that they have not yet begun, on the basis of these conditions, to live it.” Hence, the reason communism is “a society organised for co-operative working on a planned basis” is not in order to pursue productive efficiency for its own sake, but rather “to ensure all members of society the means of existence and the full development of their capacities.” This human developmental dimension also helps explain why communism’s “cooperative labor...developed to national dimensions” is not, in Marx’s projection, governed by any centralized state power; rather, “the system starts with the self-government of the communities.” In this sense, communism can be defined as “the people acting for itself by itself,” or “the reabsorption of the state power by society as its own living forces instead of as forces controlling and subduing it.”³⁰

2. Marx’s Communism, Ecology, and Sustainability

Many have questioned the economic practicality of communism as projected by Marx. Fewer have addressed the human development dimension of Marx’s vision, one major exception being those critics who argue that it anchors free human development in human technological domination and abuse of nature, with natural resources viewed as effectively limitless. It is useful to address this environmental dimension on three levels: (1) the responsibility of communism to manage its use of natural conditions; (2) the ecological significance of expanded free time; (3) the growth of wealth and the use of labor time as a measure of the cost of production.

A. Managing the Commons Communally

That communist society might have a strong commitment to protect and improve natural conditions appears surprising, given the conventional wisdom that Marx presumed “natural resources” to be “inexhaustible,” and thus saw no need for “an environment-preserving, ecologically conscious, employment-sharing socialism.” Marx evidently assumed that “scarce resources (oil, fish, iron ore, stockings, or whatever)...would not be scarce” under communism. The conventional wisdom further argues that Marx’s “faith in the ability of an improved mode of production to eradicate scarcity indefinitely” means that his communist vision provides “no basis for recognizing any interest in the liberation of nature” from anti-ecological “human domination.” Marx’s technological optimism—his “faith in the creative dialectic”—is said to rule out any concern about the possibility that “modern technology interacting with the earth’s physical environment might imbalance the whole basis of modern industrial civilization.”³¹

In reality, Marx was deeply concerned with capitalism’s tendency toward “sapping the original sources of all wealth, the soil and the labourer.” And he repeatedly emphasized the imperative for post-capitalist society to manage its use of natural conditions responsibly. This helps explain his insistence on the extension of communal property to the land and other “sources of life.” Indeed, Marx strongly criticized the Gotha Programme for not making it “sufficiently clear that land is included in the instruments of labour” in this connection. In Marx’s view, the “Association, applied to land,...reestablishes, now on a rational basis, no longer mediated by serfdom, overlordship and the silly mysticism of [private] property, the intimate ties of man with the earth, since the earth ceases to be an object of huckstering.” As with other means of production, this “common property” in land “does not mean the restoration of the old original common ownership, but the institution of a far higher and more developed form of possession in common.”³²

Marx does not see this communal property as conferring a right to overexploit land and other natural conditions in order to serve the production and consumption needs of the associated producers. Instead, he foresees an eclipse of capitalist notions of land *ownership* by a communal system of *user rights and responsibilities*:

From the standpoint of a higher economic form of society, private ownership of the globe by single individuals will appear quite as absurd as private ownership of one man by another. Even a whole society, a nation, or even all simultaneously existing societies taken together, are not the owners of the globe. They are only its possessors, its usufructuaries, and, like *boni patres familias*, they must hand it down to succeeding generations in an improved condition.³³

Marx’s projection of communal landed property clearly does not connote a right of “owners” (either individuals or society as a whole) to unrestricted use based on “possession.” Rather, like all communal property in the new union, it confers the right to *responsibly utilize* the land as a condition of free human development, and indeed as a basic source (together with labor) of “the entire range of permanent necessities of life required by the chain of successive generations.” As Marx says, the association treats “the soil as *eternal* communal property, an *inalienable* condition for the existence and reproduction of a chain of successive generations of the human race.”³⁴

Why have the ecological critics missed this crucial element of Marx’s vision? The answer may lie in the ongoing influence of so-called “tragedy of the commons” models, which (mis)identify common property with uncontrolled “open access” to natural resources by independent users. In reality, the dynamics posited by these models have more in common with the anarchy of capitalist competition than with Marx’s vision of communal rights and responsibilities regarding the use of natural conditions. Indeed, the ability of traditional communal property systems to sustainably utilize common pool resources has been the subject of a growing body of research in recent years. This research arguably supports the potential for ecological management through a communalization of natural conditions in post-capitalist society.³⁵

Marx's emphasis on the future society's responsibility toward the land follows from his projection of the inherent unity of humanity and nature being realized both consciously and socially under communism. For Marx and Engels, people and nature are not "two separate 'things'" hence they speak of humanity having "an historical nature and a natural history." They observe how extra-human nature has been greatly altered by human production and development, so that "the nature that preceded human history...today no longer exists" but they also recognize the ongoing importance of "natural instruments of production" in the use of which "individuals are subservient to nature." Communism, far from rupturing or trying to overcome the necessary unity of people and nature, makes this unity more transparent and places it at the service of a sustainable development of people as natural and social beings. Engels thus envisions the future society as one in which people will "not only feel but also know their oneness with nature." Marx goes so far as to define communism as "the unity of being of man with nature."³⁶

Naturally, it will still be necessary for communist society to "wrestle with Nature to satisfy [its] wants, to maintain and reproduce life." Marx thus refers to "the associated producers rationally regulating their interchange with nature, bringing it under their common control." Such a rational regulation or "real conscious mastery of Nature" presumes that the producers have "become masters of their own social organisation."³⁷ But it does not presume that humanity has overcome all natural limits; nor does it presume that the producers have attained complete technological control over natural forces.

For instance, Marx sees the associated producers setting aside a portion of the surplus product as a "reserve or insurance fund to provide against misadventures, disturbances through natural events, etc." especially in agriculture. Uncertainties connected with the natural conditions of production ("destruction caused by extraordinary phenomena of nature, fire, flood, etc.") are to be dealt with through "a continuous relative over-production," that is, "production on a larger scale than is necessary for the simple replacement and reproduction of the existing wealth." More specifically, "There must be on the one hand a certain quantity of fixed capital produced in excess of that which is directly required; on the other hand, and particularly, there must be a supply of raw materials, etc., in excess of the direct annual requirements (this applies especially to means of subsistence)." Marx also envisions a "calculation of probabilities" to help ensure that society is "in possession of the means of production required to compensate for the extraordinary destruction caused by accidents and natural forces."³⁸

Obviously, "this sort of over-production is tantamount to control by society over the material means of its own reproduction" only in the sense of a far-sighted regulation of the productive interchanges between society and uncontrollable natural conditions. It is in this prudential sense that Marx foresees the associated producers "direct[ing] production from the outset so that the yearly grain supply depends only to a very minimum on the variations in the weather; the sphere of production—the supply- and the use-aspects thereof—is rationally regulated." It is simply judicious for "the producers themselves...to spend a part of their labour, or of the products of their labour in order to insure their products, their wealth, or the elements of their wealth, against accidents, etc." "Within capitalist society," by contrast, uncontrollable natural conditions impart a needless "element of anarchy" to social reproduction.³⁹

Contradicting their ecological critics, Marx and Engels simply do not identify free human development with a one-sided human domination or control of nature. According to Engels,

Freedom does not consist in the dream of independence of natural laws, but in the knowledge of these laws, and in the possibility this gives of systematically making them work towards definite ends. This holds good in relation both to the laws of external nature and to those which govern the bodily and mental existence of men themselves—two classes of laws which we can separate from each other at most only in thought but not in reality... Freedom therefore consists in the control over ourselves and over external nature which is founded on natural necessity.

In short, Marx and Engels envision a “real human freedom” based on “an existence in harmony with the established laws of nature.”⁴⁰

B. Expanded Free Time and Sustainable Human Development

Marx’s ecological critics often argue that his vision of expanded free time under communism is anti-ecological because it embodies an ethic of human self-realization through the overcoming of natural constraints. Routley, for example, suggests that Marx adopts “the view of bread labor as necessarily alienated, and hence as something to be reduced to an absolute minimum through automation. The result must be highly energy-intensive and thus given any foreseeable, realistic energy scenario, environmentally damaging.” For Marx, evidently, “it is the fact that bread labor ties man to nature which makes it impossible for it to be expressive of what is truly and fully human; thus, it is only when man has overcome the necessity to spend time on bread labour that he or she can be thought of as mastering nature and becoming fully human.” Less dramatically, Walker points to a tension between Marx’s vision of expanding free time, which “clearly implies that there must be resources over and above those needed for a bare minimum of survival,” and Marx’s purported failure to “mention...limitations on available natural resources.”⁴¹

The preceding discussion has already done much to dispel the notions that Marx and Engels were unconcerned about natural resource management under communism, and that they foresaw a progressive *separation* of human development from nature as such. However, it must also be pointed out that the ecological critics have mischaracterized the relation between free time and work time under communism. It is true that, for Marx, the “development of human energy which is an end in itself...lies beyond the actual sphere of material production,” that is, beyond that “labour which is determined by necessity and mundane considerations.” But for Marx, this “true realm of freedom...can blossom forth only with [the] realm of necessity as its basis,” and the relationship between the two realms is by no means one of simple *opposition* as claimed by the ecological critics. As Marx says, the “quite different...free character” of directly associated labor, where “labour-time is reduced to a normal length and, furthermore, labour is no longer [from the standpoint of the producers as a whole] performed for someone else,” means that “labour time itself cannot remain in the abstract antithesis to free time in which it appears from the perspective of bourgeois economy”:

Free time—which is both idle time and time for higher activity—has naturally transformed its possessor into a different subject, and he then enters into the direct production process as this different subject. This process is then both discipline, as regards the human being in the process of becoming; and, at the same time, practice, experimental science, materially creative and objectifying science, as regards the human being who has become, in whose head exists the accumulated knowledge of society.⁴²

In Marx’s vision, the enhancement of free human development through reductions in work time resonates positively with the development of human capabilities in the realm of production which still appears as a “metabolism” of society and nature. Marx’s emphases on “theoretical and practical” education, and on the de-alienation of science *vis-à-vis* the producers, are quite relevant in this connection. Marx sees communism’s diffusion and development of scientific knowledge taking the form of new combinations of natural and social science, projecting that

natural science...will become the basis of *human* science, as it has already become the basis of actual human life, albeit in an estranged form. One basis for life and another basis for science is *a priori* a lie...Natural science will in time incorporate into itself the science of man, just as the science of man will incorporate into itself natural science: there will be *one* science.⁴³

This intrinsic unity of social and natural science is, of course, a logical corollary of the intrinsic unity of humanity and nature. Accordingly, Marx and Engels “know only a single science, the science of history. One can look at history from two sides and divide it into the history of nature and the history of men. The two sides are, however, inseparable; the history of nature and the history of men are dependent on each other so long as men exist.”⁴⁴

In short, the founders of Marxism did not envision communism’s reduced work time in terms of a progressive separation of human development from nature. Nor did they see expanded free time being filled by orgies of consumption for consumption’s sake. Rather, reduced work time is viewed as a necessary condition for the intellectual development of social individuals capable of mastering the scientifically developed forces of nature and social labor in environmentally *and* humanly rational fashion. The “increase of free time” appears here as “time for the full development of the individual” capable of “the grasping of his own history as a *process*, and the recognition of nature (equally present as practical power over nature) as his real body.” The intellectual development of the producers during free time *and* work time is clearly central to the process by which communist labor’s “social character is posited...in the production process not in a merely natural, spontaneous form, but as an activity regulating all the forces of nature.”⁴⁵ Far from anti-ecological, this process is such that the producers and their communities become more theoretically and practically aware of natural wealth as an eternal condition of production, free time, and human life itself.

The ecological critics also seem to have missed the potential for increased free time as a means of *reducing* the pressure of production on the natural environment. Specifically, rising productivity of social labor need not increase material and energy throughput insofar as the producers are compensated by reductions in work time instead of greater material consumption. However, this aspect of free time as a measure of wealth is best located in the context of communism’s transformation of human needs.

C. Wealth, Human Needs, and Labor Cost

Some would argue that insofar as Marx envisions communism encouraging a shared sense of responsibility toward nature, this responsibility remains wedded to an anti-ecological conception of nature as primarily an instrument or material of human labor. Alfred Schmidt, for example, suggests that “when Marx and Engels complain about the unholy plundering of nature, they are not concerned with nature itself but with considerations of economic utility.” Routley asserts that for Marx, “Nature is apparently to be respected to the extent, and *only* to the extent, that it becomes man’s handiwork, his or her artifact and self-expression, and is thus a reflection of man and part of man’s identity.”⁴⁶

It should be clear from our previous discussion that any dichotomy between “economic utility” and “nature itself” is completely alien to Marx’s materialism. A related point is that Marx’s conception of wealth or use value encompasses “the manifold variety of human needs,” whether these needs be physical, cultural, or aesthetic. In this broad human developmental sense, “use value...can quite generally be characterised as the *means of life*.” David Pepper rightly concludes that “Marx did see nature’s role as ‘instrumental’ to humans, but to him instrumental value...included nature as a source of aesthetic, scientific and moral value.”⁴⁷

As per “man’s handiwork,” Marx does not employ an oppositional conception of labor and nature in which the former merely subsumes the latter. He insists that the human capacity to work, or labor power, is itself “a natural object, a thing, although a living conscious thing” hence labor is a process in which the worker “opposes himself to Nature *as one of her own forces*” and “appropriates *Nature’s productions* in a form *adapted* to his own wants.” Marx views labor as “a process in which both man and Nature participate...the necessary condition for effecting exchange of matter between man and Nature” in production. As a “universal condition for the metabolic interaction between nature and man,” labor is “a natural condition of human life... independent of, equally common to, all particular social forms of human life.” Labor is, of course, only part of “the universal metabolism of nature” and as a materialist Marx insists that “the earth...exists independently of man.” In this ontological sense, “the priority of external nature remains unassailed,” even though Marx does insist on the importance of social relations in the structuring of the productive “metabolism” between humanity and nature.⁴⁸

But what of Marx and Engels’s notorious references to continued growth in the production of wealth under communism? Are these not immanently anti-ecological? Here it must be emphasized that these growth projections are always made in close connection with Marx’s vision of free and well-rounded human development, not with growth of material production and consumption for their own sake. Accordingly, they always refer to growth of wealth in a general sense, encompassing the satisfaction of needs other than those requiring the industrial processing of natural resources (matter and energy throughput). In discussing the “higher phase of communist society,” for example, Marx makes the “to each according to his needs” criterion conditional upon a situation where “the enslaving sub-ordination of individuals under division of labour, and therewith also the antithesis between mental and physical labour, has vanished; after labour, from a mere means of life, has itself become the prime necessity of life; after the productive forces have also increased with the all-round development of the individual.” Similarly, Engels does refer to “a practically limitless growth of production,” but then fills out his conception of “practical” in terms of the priority “of securing for every member of society...an existence which is not only fully sufficient from a material standpoint...but also guarantees to them the completely unrestricted development of their physical and mental faculties.”⁴⁹ Such human development need not involve a limitless growth of material consumption.

For Marx, communism’s “progressive expansion of the process of reproduction” encompasses the entire “living process of the *society* of producers” and, as discussed earlier, he specifies the “material and intellectual advantages” of this “social development” in holistic human developmental terms. When Marx and Engels envision communism as “an organisation of production and intercourse which will make possible the normal satisfaction of needs...limited only by the needs themselves,” they do not mean a complete satiation of limitlessly expanding needs of all kinds:

Communist organisation has a twofold effect on the desires produced in the individual by present-day relations; some of these desires—namely desires which exist under all relations, and only change their form and direction under different social relations—are merely altered by the communist social system, for they are given the opportunity to develop normally; but others—namely those originating solely in a particular society, under particular conditions of production and intercourse—are totally deprived of their conditions of existence. Which will be merely changed and which eliminated in a communist society can only be determined in a practical way.⁵⁰

As Ernest Mandel points out, this social and human developmental approach to need satisfaction is quite different from the “absurd notion” of unqualified “abundance” often ascribed to Marx, that is, “a regime of unlimited access to a boundless supply of all goods and services.” Although communist need satisfaction is consistent with a “definition of abundance [as] *saturation of demand*,” this has to be located in the context of a hierarchy of “basic needs, secondary needs that become indispensable with the growth of civilization, and luxury, inessential or even harmful needs.” Marx’s human developmental vision basically foresees a satiation of basic needs and a gradual extension of this satiation to secondary needs as they develop socially through expanded free time and cooperative worker-community control over production—*not* a full satiation of all conceivable needs.⁵¹

Here, one begins to see the full ecological significance of free time as a measure of communist wealth. Specifically, if the secondary needs developed and satisfied during free time are less material and energy intensive, their increasing weight in total needs should reduce the pressure of production on limited natural conditions. This is crucial insofar as Marx’s vision has the producers using their newfound material security and expanded free time to engage in a variety of intellectual and aesthetic forms of self-development.⁵² Such a development of secondary needs is to be enhanced by the greater opportunities that real worker-community control provides for people to become informed participants in economic, political, and cultural life.

Of course, labor (along with nature) remains a fundamental source of wealth under communism. This, together with the priority of expanded free time, means that the amounts of social labor expended in the production of different goods and services will still be an important measure of their *cost*. As Marx explains in the *Grundrisse*:

On the basis of communal production, the determination of time remains, of course, essential. The less time the society requires to produce wheat, cattle etc., the more time it wins for other production, material or mental. Just as in the case of an individual, the multiplicity of its development, its enjoyment and its activity depends on economization of time. Economy of time, to this all economy ultimately reduces itself. Society likewise has to distribute its time in a purposeful way, in order to achieve a production adequate to its overall needs; just as the individual has to distribute his time correctly in order to achieve knowledge in proper proportions or in order to satisfy the various demands on his activity. Thus, economy of time, along with the planned distribution of labour time among the various branches of production, remains the first economic law on the basis of communal production. It becomes law, there, to an even higher degree.

Marx immediately adds, however, that communism’s economy of time “is essentially different from a measurement of exchange values (labour or products) by labour time.” For one thing, communism’s use of labor time as a measure of cost “is accomplished...by the direct and conscious control of society over its working time—which is possible only with common ownership,” unlike the situation under capitalism, where the “regulation” of social labor time is only accomplished indirectly, “by the movement of commodity prices.” More importantly, communism’s economy of labor time serves use value, especially the expansion of free time, whereas capitalism’s economy of time is geared toward increasing the surplus labor time expended by the producers.⁵³

Marx and Engels do not, moreover, project labor time as the sole guide to resource-allocation decisions under communism: they only indicate that it is to be one important measure of the social costs of different kinds of production. That “production...under the actual, predetermining control of society...establishes a relation between the volume of social labour-time applied in producing definite articles, and the volume of the social want to be satisfied by these articles” in no way implies that environmental costs are left out of account. Equivalently, it does not preclude the maintenance and improvement of natural conditions from being included under the “social wants to be satisfied” by production and consumption.⁵⁴

For strong evidence that Marx and Engels did not see communism prioritizing minimum labor cost over ecological goals, one need only point to their insistence on the “abolition of the antithesis between town and country” as “a direct necessity of...production and, moreover, of public health.” Observing capitalism’s ecologically disruptive urban concentrations of industry and population, industrialized agriculture, and failure to recycle human and livestock wastes, Marx and Engels early on pointed to the “abolition of the contradiction between town and country” as “one of the first conditions of communal life.” As Engels later put it: “The present poisoning of the air, water and land can only be put an end to by the fusion of town and country” under “one single vast plan.” Despite its potential cost to society in terms of increased labor time, he viewed this fusion as “no more and no less utopian than the abolition of the antithesis between capitalist and wage-workers.” It was even “a practical demand of both industrial and agricultural production.” In his *magnum opus*, Marx foresaw communism forging a “higher synthesis” of “the old bond of union which held together agriculture and manufacture in their infancy.” This new union would work toward a “restoration” of “the naturally grown conditions for the maintenance of [the] circulation of matter...under a form appropriate to the full development of the human race.” Accordingly, Engels ridiculed Dühring’s projection “that the union between agriculture and industry will nevertheless be carried through even *against* economic considerations, as if this would be some economic sacrifice!”⁵⁵ It is obvious that Marx and Engels would gladly accept increases in social labor time in return for an ecologically more sound production.

Still, one need not accept the notion, repeated *ad nauseam* by Marx’s ecological critics, of an inherent opposition between labor cost reductions and environmental friendliness. Marx’s communism would dispense with the waste of natural resources *and* labor associated with capitalism’s “anarchical system of competition” and “vast number of employments...in themselves superfluous.” Many anti-ecological use values could be eliminated or greatly reduced under a planned system of labor allocation and land use, among them advertising, the excessive processing and packaging of food and other goods, planned obsolescence of products, and the automobile. All these destructive use values are “indispensable” for capitalism; but from the standpoint of environmental sustainability they represent “the most outrageous squandering of labour-power and of the social means of production.”⁵⁶

3. Capitalism, Communism, and the Struggle Over Human Development

Marx argues that “if we did not find concealed in society as it is the material conditions of production and the corresponding relations of exchange prerequisite for a classless society, then all attempts to explode it would be quixotic.” He refers to “development of the productive forces of social labour” as capitalism’s “historical task and justification...the way in which it unconsciously creates the material requirements of a higher mode of production.” In short, the “original unity between the worker and the conditions of production...can be re-established only on the material foundation which capital creates.”⁵⁷

Time and again, Marx’s ecological critics have found in such pronouncements evidence that he uncritically endorsed capitalism’s anti-ecological subjugation of nature to human purposes, and that he saw this subjugation continuing and even deepening under communism. Ted Benton, for example, asserts that in seeing capitalism as “preparing the conditions for future human emancipation,” Marx shared “the blindness to natural limits already present in...the spontaneous ideology of 19th-century industrialism.” This critique may be viewed as an ecological variation on Nove’s theme that Marx thought “the problem of production had been ‘solved’ by capitalism,” so that communism would not be required “to take seriously the problem of the allocation of scarce resources.”⁵⁸

In addition to bypassing Marx and Engels’s deep concern with natural resource management and, more fundamentally, with the de-alienation of nature and the producers, under communism, these ecological critics have also misinterpreted Marx’s conceptions of capitalist development and the transition from capitalism to communism.

What, exactly, is the historical potential capitalism creates in Marx's view? Does it lie in the development of mass production and consumption to the point where all scarcity disappears? Not really. It is, first, that by developing the productive forces, capitalism creates the possibility of a system "in which coercion and monopolisation of social development (including its material and intellectual advantages) by one portion of society at the expense of another are eliminated," partly through a "greater reduction of time devoted to material labour in general." In short, insofar as it develops human productive capabilities, capitalism negates, not scarcity as such (in the sense of a non-satisfaction of all conceivable material needs), but rather the scarcity rationale for class inequalities in human developmental opportunities. As Marx indicates, "Although at first the development of the capacities of the human species takes place at the cost of the majority of human individuals and even classes, in the end it breaks through this contradiction and coincides with the development of the individual."⁵⁹

Secondly, capitalism potentiates less restricted forms of human development insofar as it makes production an increasingly broad social process, "a system of general social metabolism, of universal relations, of all-round needs and universal capacities." Only with this socialized production can one foresee "free individuality, based on the universal development of individuals and on their subordination of their communal, social productivity as their social wealth." For Marx, capitalism's development of "the universality of intercourse, hence the world market" connotes "the possibility of the universal development of the individual." As always, it is with all-round human development in mind (not growth of production and consumption for their own sake) that Marx praises "the universality of individual needs, capacities, pleasures, productive forces etc., created through universal exchange" under capitalism.

The same goes for people-nature relations. The potential Marx sees in capitalism does not involve a one-sided human subordination of, or separation from, nature, but rather the possibility of less restricted relations between humanity and nature. It is only by comparison with these richer, more universal human-nature relations that "all earlier ones appear as mere *local developments* of humanity and as *nature-idolatry*." In earlier modes of production, "the restricted attitude of men to nature determines their restricted relation to one another, and their restricted attitude to one another determines men's restricted relation to nature."⁶⁰

Marx's analysis would only be anti-ecological if it had *uncritically* endorsed capitalism's appropriation of natural conditions. In fact, Marx emphasizes "the alienated form" of "the objective conditions of labour," including nature, in capitalist society. He insists that capitalism's alienation of "the general social powers of labour" encompasses "natural forces and scientific knowledge." As a result, in his view, "the forces of nature and science...confront the labourers as *powers* of capital." Under capitalism, "science, natural forces and products of labour on a large scale" are utilized mainly "as *means for the exploitation* of labour, as means of appropriating surplus-labour." Nor is Marx's critique of capital's use of natural resources limited to the exploitation directly suffered by workers in production and the limits it places on workers' consumption. As shown by John Bellamy Foster, Marx had a profound grasp of the broader "metabolic rift" between humanity and nature produced by capitalism, one symptom of which is the anti-ecological division of labor between town and country with its "irreparable break in the coherence of social interchange prescribed by the natural laws of life." Marx used this framework to explain how capitalism both "violates the conditions necessary to lasting fertility of the soil" and "destroys the health of the town labourer." According to Engels, the system's alienation of nature is manifested in the narrow viewpoint on nature's utility necessarily adopted by "individual capitalists," who "are able to concern themselves only with the most immediate useful effect of their actions" in terms of "the profit to be made"—ignoring "the natural effects of the same actions."⁶¹

For Marx, the “alienated, independent, social power” attained by nature and other “conditions of production” under capitalism poses a challenge to workers and their communities: to convert these conditions “into general, communal, social, conditions” serving “the requirements of socially developed human beings...the living process of the *society* of producers.” Such a conversion requires a prolonged struggle to qualitatively transform the system of production, both materially and socially. Communist production is not simply inherited from capitalism, needing only to be signed into law by a newly elected socialist government. It requires “long struggles, through a series of historic processes, transforming circumstances and men.” Among these transformed circumstances will be “not only a change of distribution, but a new organization of production, or rather the delivery (setting free) of the social forms of production...of their present class character, and their harmonious national and international co-ordination.” This “long struggle” scenario for post-revolutionary society is a far cry from the interpretation put forth by the ecological critics, which has Marx endorsing capitalist industry as a qualitatively appropriate basis for communist development. Indeed, Marx’s vision corresponds more accurately to Roy Morrison’s view that the “struggle for the creation of an ecological commons is the struggle for the building of an ecological democracy—community by community, neighborhood by neighborhood, region by region...the struggle and work of fundamental social transformation from below.”⁶²

In Marx’s view, the struggle for “the conditions of free and associated labour...will be again and again relented and impeded by the resistance of vested interests and class egotisms.” This is precisely why communism’s human developmental conditions will be generated in large part by the revolutionary struggle itself—both in the taking of political power by the working class and in the subsequent struggle to transform material and social conditions. As Marx and Engels put it, communist “appropriation...can only be effected through a union, which by the character of the proletariat itself can again only be a universal one, and through a revolution, in which, on the one hand, the power of the earlier mode of production and intercourse and social organisation is overthrown, and, on the other hand, there develops the universal character and the energy of the proletariat, which are required to accomplish the appropriation, and the proletariat moreover rids itself of everything that still clings to it from its previous position in society.”⁶³

By now it should be clear why Marx argued that “the emancipation of the working classes must be conquered by the working classes themselves.” The struggle for human development ultimately requires “the abolition of all class rule,” and the working class is the only group capable of undertaking such a project. The self-emancipatory nature of communism also explains why Marx’s vision does not take the form of a detailed blueprint *à la* the utopian socialists. As Alan Shandro observes, any such blueprint would only foreclose political debates, conflicts, and strategies developed by the working class itself “understood as a unity in diversity, as a political community.” Marx and Engels’s attempts to envision communism’s basic principles should be seen not as a “master plan” but “as means of organising the workers’ movement and structuring and guiding debate in and around it.” Although their projections need to be constantly updated in light of developments in capitalist and post-revolutionary societies, their basic approach is still relevant today.⁶⁴

The demand for more equitable and sustainable forms of human development is central to the growing worldwide rebellion against elite economic institutions—transnational corporations, the IMF, World Bank, NAFTA, WTO, and so on. But this movement needs a vision that conceives the various institutions and policies under protest as elements of one class-exploitative system: capitalism. And it needs a framework for the debate, reconciliation, and realization of alternative pathways and strategies for negating the power of capital over the conditions of human development: that framework is communism. The classical Marxist vision of communism as de-alienation of production in service of human development still has much to contribute to this needed framework.

Notes

1. ↪ Oskar Lange and Fred M. Taylor, *On the Economic Theory of Socialism* (New York: McGraw-Hill, 1964);

- “Socialism: Alternative Views and Models,” symposium in *Science & Society* 56, no. 4 (Spring 1992); “Building Socialism Theoretically: Alternatives to Capitalism and the Invisible Hand,” symposium in *Science & Society* 66, no. 1 (Spring 2002); Ernesto Che Guevara, “Man and Socialism in Cuba,” in *Man and Socialism in Cuba: The Great Debate*, ed. Bertram Silverman (New York: Atheneum, 1973), 337, 350.
2. ↪ For prior discussions of Marx’s vision of communism, see Paresh Chattopadhyay, “Socialism: Utopian and Feasible,” *Monthly Review* 37, no. 10 (March 1986); Bertell Ollman, “Marx’s Vision of Communism,” in *Social and Sexual Revolution: Essays on Marx and Reich* (Boston: South End Press, 1979).
 3. ↪ Herman E. Daly, *Steady-State Economics*, 2nd ed. (London: Earthscan, 1992), 196; Robyn Eckersley, *Environmentalism and Political Theory* (Albany: State University of New York Press, 1992), 80; Victor Ferkiss, *Nature, Technology, and Society* (New York: New York University Press, 1993), 110; K. J. Walker, “Ecological Limits and Marxian Thought,” *Politics* 14, no. 1 (May 1979), 35–6; Val Routley, “On Karl Marx as an Environmental Hero,” *Environmental Ethics* 3, no. 3 (Fall 1981), 242. For additional references to ecological criticisms of Marx’s communism, see John Bellamy Foster, “Marx and the Environment,” *Monthly Review* 47, no. 3 (July–August 1995), 108–9; Paul Burkett, *Marx and Nature: A Red and Green Perspective* (New York: St. Martin’s Press, 1999), 147–8, 223.
 4. ↪ Karl Polanyi, *The Great Transformation* (New York: Farrar & Rinehart, 1944); Thomas E. Weisskopf, “Marxian Crisis Theory and the Contradictions of Late Twentieth-Century Capitalism,” *Rethinking Marxism* 4, no. 4 (Winter 1991); Blair Sandler, “Grow or Die: Marxist Theories of Capitalism and the Environment,” *Rethinking Marxism* 7, no. 2 (Summer 1994); Andriana Vlachou, “Nature and Value Theory,” *Science & Society* 66, no. 2 (Summer 2002).
 5. ↪ Paul Auerbach and Peter Skott, “Capitalist Trends and Socialist Priorities,” *Science & Society* 57, no. 2 (Summer 1993), 195.
 6. ↪ Karl Marx, *Value, Price and Profit* (New York: International Publishers, 1976), 39; *Theories of Surplus Value*, part 3 (Moscow: Progress Publishers, 1971), 271–2; *Theories of Surplus Value*, part 2 (Moscow: Progress Publishers, 1968), 580 (emphasis in original).
 7. ↪ Frederick Engels, *Anti-Dühring* (New York: International Publishers, 1939), 221 (emphasis in original); Marx, *Theories of Surplus Value*, part 3, 525; “Drafts of the Letter to Vera Zasulich, March 8, 1881,” in *Collected Works*, Karl Marx and Frederick Engels, vol. 24 (New York: International Publishers, 1989), 362 (emphasis in original).
 8. ↪ Marx, *Capital*, vol. I (New York: International Publishers, 1967), 762; “Economic Manuscript of 1861–63, Conclusion,” in *Collected Works*, Karl Marx and Frederick Engels, vol. 34 (New York: International Publishers, 1994), 109 (emphasis in original); Karl Marx and Frederick Engels, *The German Ideology* (Moscow: Progress Publishers, 1976), 97.
 9. ↪ Karl Marx and Frederick Engels, “Manifesto of the Communist Party,” in *Selected Works* (London: Lawrence & Wishart, 1968), 47. See also Marx, *Capital*, 3:437–40; “Economic Manuscript of 1861–63, Conclusion,” 108.
 10. ↪ Marx, *Capital*, 3:437, 876; *Critique of the Gotha Programme* (New York: International Publishers, 1966), 7–8, 11; Frederick Engels, *The Housing Question* (Moscow: Progress Publishers, 1979), 28, 94. See also Marx, *Theories of Surplus Value*, part 1 (Moscow: Progress Publishers, 1963), 107; *Capital*, 1:530 and 2:819, 847.
 11. ↪ Marx, *Capital*, 1:763; “Economic Manuscript of 1861–63, Conclusion,” 109 (emphases in original); “The Civil War in France,” in *On the Paris Commune*, by Karl Marx and Frederick Engels (Moscow: Progress Publishers, 1985), 75.
 12. ↪ Marx and Engels, *The German Ideology*, 86–9, 309.
 13. ↪ Marx, *Capital*, 1:488; Marx and Engels, “Manifesto of the Communist Party,” 53.

14. ↪ Marx and Engels, "Manifesto of the Communist Party," 49; Engels, *Anti-Dühring*, 144; Marx, *Capital*, 1:78.
15. ↪ Marx, *Capital*, 1:78; *Critique of the Gotha Programme*, 8, 10.
16. ↪ Engels, *Anti-Dühring*, 220–2.
17. ↪ Marx, *Critique of the Gotha Programme*, 10; Engels, *Anti-Dühring*, 221 (emphasis in original); Marx, *Capital*, 3:876. See also Marx and Engels, *The German Ideology*, 566.
18. ↪ Marx, *Critique of the Gotha Programme*, 7–8.
19. ↪ Marx, *Critique of the Gotha Programme*, 20, 22; *Capital*, 1:488, 490; "The Civil War in France," 162.
20. ↪ Marx, *Capital*, 1:530 and 2:819–20; *Theories of Surplus Value*, part 3, 257 (emphases in original); *Grundrisse* (New York: Vintage, 1973), 708.
21. ↪ Marx, *Capital*, 1:530; "The Civil War in France," 75; Marx and Engels, *The German Ideology*, 309.
22. ↪ Marx, *Grundrisse*, 190, 706; *Theories of Surplus Value*, part 2, 117–8 (emphasis in original); Marx and Engels, *The German Ideology*, 96, 465.
23. ↪ Marx, *Capital*, 2:358; Engels, *Anti-Dühring*, 221.
24. ↪ Marx, *A Contribution to the Critique of Political Economy* (New York: International Publishers, 1970), 84–5.
25. ↪ Marx, *A Contribution to the Critique of Political Economy*, 85 (emphasis in original); *Theories of Surplus Value*, part 3, 129; *Critique of the Gotha Programme*, 8 (emphasis in original).
26. Marx, *Grundrisse*, 159, 171–2 (emphases in original).
27. ↪ Marx, *Grundrisse*, 158 (emphases in original).
28. ↪ Marx, *Grundrisse*, 264; *Capital*, 1:94. See also Engels, *Anti-Dühring*, 337–8.
29. ↪ Marx, *Capital*, 1:78–80; "The Civil War in France," 76.
30. ↪ Marx, *Grundrisse*, 162; Engels, *Anti-Dühring*, 167; Marx, "Inaugural Address of the International Working Men's Association," in *The First International and After*, ed. David Fernbach (New York: Random House, 1974), 80; "Notes on Bakunin's Book *Statehood and Anarchy*," in *Collected Works*, Karl Marx and Frederick Engels, 24:519; "The Civil War in France," 130, 153.
31. ↪ Alec Nove, "Socialism," in *The New Palgrave: Problems of the Planned Economy*, ed. John Eatwell, Murray Milgate, and Peter Newman (New York: Norton, 1990), 230, 237; Alec Nove, *The Economics of Feasible Socialism* (London: Allen & Unwin, 1983), 15–6; Geoffrey Carpenter, "Redefining Scarcity: Marxism and Ecology Reconciled," *Democracy & Nature* 3, no. 3 (1997), 140; Andrew McLaughlin, "Ecology, Capitalism, and Socialism," *Socialism and Democracy*, no. 10 (Spring–Summer 1990), 95; Lewis S. Feuer, "Introduction," in *Karl Marx and Frederick Engels: Basic Writings on Politics and Philosophy*, ed. Lewis Feuer (Garden City, N.Y.: Anchor Books, 1989), xii.
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34. ↪ Marx, *Capital*, 617, 812 (emphases added).
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36. ↪ Marx and Engels, *The German Ideology*, 45–6, 71; Frederick Engels, *Dialectics of Nature* (Moscow: Progress Publishers, 1964), 183; Marx, *Economic and Philosophical Manuscripts of 1844*, 137.
 37. ↪ Marx, *Capital*, 3:820; Engels, *Anti-Dühring*, 309.
 38. ↪ Marx, *Critique of the Gotha Programme*, 7; *Capital*, 2:177, 469.
 39. ↪ Marx, *Capital*, 2:469; “Notes on Wagner,” in *Texts on Method*, ed. Terrell Carver (Oxford, UK: Blackwell, 1975), 188; *Theories of Surplus Value*, part 3, 357–8.
 40. ↪ Engels, *Anti-Dühring*, pp. 125–6.
 41. ↪ Routley, “On Karl Marx as an Environmental Hero,” 242; Walker, “Ecological Limits and Marxian Thought,” 242–3.
 42. ↪ Marx, *Capital*, 3:820; *Theories of Surplus Value*, part 3, 257; *Grundrisse*, 712.
 43. ↪ Marx, *Economic and Philosophical Manuscripts of 1844*, 143 (emphasis in original).
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 45. ↪ Marx, *Grundrisse*, 542, 612 (emphasis in original).
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 47. ↪ Marx, *Grundrisse*, 527; “Economic Manuscript of 1861–63, Third Chapter,” in *Collected Works*, Karl Marx and Frederick Engels, vol. 30 (New York: International Publishers, 1988), 40 (emphasis in original); David Pepper, *Eco-Socialism* (London: Routledge, 1993), 64.
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 53. ↪ Marx, *Grundrisse*, 172–3, 708; Marx to Engels, January 8, 1868, in *Selected Correspondence*, Karl Marx and Frederick Engels (Moscow: Progress Publishers, 1975), 187; Marx, *Capital*, 1:71 and 3:264.
 54. ↪ Marx, *Capital*, 3:187.
 55. ↪ Engels, *Anti-Dühring*, 323–4 (emphasis in original); *The Housing Question*, 92; Marx and Engels, *The German Ideology*, 72; Marx, *Capital*, 1:505–6.
 56. ↪ Marx, *Capital*, 1:530. For further discussion of socialist planning, technology, and ecological efficiency, see Victor Wallis, “Socialism, Ecology, and Democracy: Toward A Strategy of Conversion,” *Monthly Review* 44, no. 2 (June 1992); “Technology, Ecology, and Socialist Renewal,” *Capitalism, Nature, Socialism* 12, no. 1 (March 2004).

57. ↪ Marx, *Grundrisse*, 159; *Capital*, 3:259; *Theories of Surplus Value*, part 3, 422–3.
58. ↪ Ted Benton, “Marxism and Natural Limits,” *New Left Review*, no. 178 (November/December 1989), 74, 77; Nove, “Socialism,” 230.
59. ↪ Marx, *Capital*, 3:819; *Theories of Surplus Value*, part 2, 118.
60. ↪ Marx, *Grundrisse*, 158, 409–10, 488, 542 (emphases in original); Marx and Engels, *The German Ideology*, 50. Toward the end of his life Marx reconsidered his earlier stance on the relative backwardness of pre-capitalist *communal* relations as supporters of human development, and argued that the traditional Russian commune could—if assisted by a European socialist revolution—make a direct transition to socialism. See *The Ethnological Notebooks of Karl Marx*, ed. Lawrence Krader (Assen, The Netherlands: Van Gorcum, 1974); “Drafts of the Letter to Vera Zasulich” Teodor Shanin, *Late Marx and the Russian Road* (New York: Monthly Review Press, 1983); Franklin Rosemont, “Karl Marx and the Iroquois,” http://www.geocities.com/cordobakaf/marx_iroquois.html.
61. ↪ Marx, “Economic Manuscript of 1861–63, Conclusion,” 29; *Theories of Surplus Value*, part 1, 391–2 (emphases in original); *Capital*, 1:505 and 3:813; Engels, *Dialectics of Nature*, 185; Foster, *Marx’s Ecology*, 141–77. See also Paul Burkett and John Bellamy Foster, “Metabolism, Energy and Entropy in Marx’s Critique of Political Economy: Beyond the Podolinsky Myth,” *Theory and Society*, forthcoming, 2006.
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63. ↪ Marx, “The Civil War in France,” 157; Marx and Engels, *The German Ideology*, 97.
64. ↪ Marx, “Provisional Rules,” in *The First International and After*, 82; Alan Shandro, “Karl Marx as a Conservative Thinker,” *Historical Materialism*, no. 6 (Summer 2000), 21–3; Bertell Ollman, “The Utopian Vision of the Future (Then and Now),” *Monthly Review* 57, no. 3 (July–August 2005); Michael A. Lebowitz, “Building Socialism in the 21st Century,” <http://mrzine.monthlyreview.org/lebowitz280705.html>.